IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A wavelength tunable optical filter for optical communications systems, comprising:

a compliant support block having a longitudinal axis and a load-receiving surface oriented substantially orthogonal to said longitudinal axis, said load-receiving surface being suitable to receive an applied load in a direction substantially parallel to said longitudinal axis; ~~and~~

an optical fiber having at least a section with a fiber Bragg grating written therein disposed in said compliant support block and arranged in a configuration at least partially encircling said longitudinal axis of said compliant support ~~block,~~ block; and

a mechanical assembly having a portion thereof in contact with said load-receiving surface of said compliant support block,

wherein said fiber Bragg grating has a variation in refractive index along an axial direction ~~thereof.~~ thereof, and

wherein said mechanical assembly is adapted to provide a selectable load to said load-receiving surface of said compliant support block to select a reflection characteristic of said fiber Bragg grating out of an adjustable range of reflection characteristics.

2. (Original) A wavelength tunable filter according to claim 1, wherein said optical fiber having at least a section with a fiber Bragg grating written therein is arranged in a spiral fashion with a fixed pitch around said longitudinal axis.

3. (Currently Amended) A wavelength tunable optical filter according to claim 1, ~~further comprising~~ wherein said mechanical assembly comprises a support frame, said compliant support block being disposed ~~in~~ within said support frame,

wherein said support frame ~~has an opening~~ reserves space along a side of said compliant support block suitable to allow said compliant support block to expand orthogonally to said longitudinal axis in response to said applied load in said direction substantially parallel to said longitudinal axis.

4. (Currently Amended) A wavelength tunable optical filter according to claim 1, ~~further comprising~~ wherein said mechanical assembly comprises a substantially rigid plate disposed ~~proximate~~ on said load-receiving surface of said compliant support block.

5. (Original) A wavelength tunable optical filter according to claim 1, wherein a material of said compliant support block comprises a polymer.

6. (Currently Amended) A wavelength tunable optical filter according to claim 5, wherein said polymer of said compliant support block is selected from the group consisting of a visco-elastic polymer and an elastic polymer.

7. (Currently Amended) A wavelength tunable optical filter according to claim 1, wherein said compliant support block comprises a plurality of microspheres disposed therein.

8. (Original) A wavelength tunable optical filter according to claim 7, wherein said plurality of microspheres are glass microspheres.

9. (Original) A wavelength tunable optical filter according to claim 1, wherein said compliant support block has a cylindrical shape, having an end face, said end face of said compliant support block being said load-receiving surface.

10. (Original) A wavelength tunable optical filter according to claim 1, wherein said fiber Bragg grating disposed in said compliant support block has a spiral configuration, wherein an axis of said spiral configuration of said fiber Bragg grating coincides with said longitudinal axis of said cylindrical support block.

11. (Canceled)

12. (Currently Amended) A wavelength tunable optical filter for optical communications systems, comprising: ~~according to claim 1, further comprising~~

a compliant support block having a longitudinal axis and a load-receiving surface oriented substantially orthogonal to said longitudinal axis, said load-receiving surface being suitable to receive an applied load in a direction substantially parallel to said longitudinal axis;

an optical fiber having at least a section with a fiber Bragg grating written therein disposed in said compliant support block and arranged in a configuration at least partially encircling said longitudinal axis of said compliant support block;

a substantially rigid plate disposed proximate said load-receiving surface of said compliant support block; and

a micrometer assembly attached to said support frame proximate said substantially rigid plate,

wherein said fiber Bragg grating has a variation in refractive index along an axial direction thereof, and

wherein said micrometer assembly comprises a micrometer screw member adapted to apply a load to said support block, transferred through said substantially rigid plate.

13. (Cancel)

14. (Cancel)

15. (Cancel)

16. (Cancel)

17. (Cancel)

18. (Currently Amended) A wavelength division multiplexed optical communication system, comprising:

a plurality of optical transmitters;

an optical multiplexer in optical communication with said plurality of optical transmitters;

a signal transmission waveguide in optical communication with said optical multiplexer;

a tunable optical filter in optical communication with said signal transmission waveguide;

an optical demultiplexer in optical communication with said signal transmission waveguide; and

a plurality of optical receivers in communication with said optical demultiplexer,

wherein said tunable optical filter comprises:

a compliant support block having a longitudinal axis and a load-receiving surface oriented substantially orthogonal to said longitudinal axis, said load-receiving surface being suitable to receive an applied load in a direction substantially parallel to said longitudinal axis, ~~and~~

a fiber Bragg grating disposed in said compliant support block and arranged in a ~~configuration~~ configuration at least partially encircling said longitudinal axis of said compliant support ~~block,~~ block, and

a mechanical assembly having a portion thereof in contact with said load-receiving surface of said compliant support block, wherein said fiber Bragg grating has a variation in refractive index along an axial direction thereof, and

wherein said mechanical assembly is adapted to provide a selectable load to said load-receiving surface of said compliant support block to select a reflection characteristic of said fiber Bragg grating out of an adjustable range of reflection characteristics.

19. (Withdrawn) A method of making a tunable optical filter, comprising:

disposing an optical fiber having at least a fiber Bragg grating portion into a substantially cylindrical mold;

pouring support material into a substantially cylindrical mold, said support material being compliant when it sets; and

allowing said support material to set.

20. (Withdrawn) A method of making a tunable optical filter according to claim 19, further comprising attaching a load-supplying assembly to said support material.

21. (Withdrawn) A method of making a tunable optical filter according to claim 19, further comprising attaching said optical fiber having said fiber Bragg grating portion to a core of pre-set support material prior to said pouring support material into said substantially cylindrical mold.

22. (New) An add-drop multiplexer for optical communications systems, comprising:

an optical circulator having an optical signal input port, an intermediate optical port, and a through channel optical port; and

a wavelength tunable optical filter in optical communication with said intermediate optical port of said optical circulator,

wherein said wavelength tunable optical filter comprises:

a compliant support block having a longitudinal axis and a load-receiving surface oriented substantially orthogonal to said longitudinal axis, said load-receiving surface being suitable to receive an applied load in a direction substantially parallel to said longitudinal axis;

an optical fiber having at least a section with a fiber Bragg grating written therein disposed in said compliant support block and arranged in a configuration at least partially encircling said longitudinal axis of said compliant support block; and

a mechanical assembly having a portion thereof in contact with said load-receiving surface of said compliant support block,

wherein said fiber Bragg grating has a variation in refractive index along an axial direction thereof, and

wherein said mechanical assembly is adapted to provide a selectable load to said load-receiving surface of said compliant support block to select a reflection characteristic of said fiber Bragg grating out of an adjustable range of reflection characteristics.